

COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES

BACKGROUND REPORT ON THE INCREASE
IN THE SMI ENROLLEE PREMIUM FOR 1988



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BACKGROUND REPORT ON THE INCREASE IN THE SMI ENROLLEE PREMIUM FOR 1988

I. INTRODUCTION

The Medicare Supplementary Medical Insurance (SMI) program, also known as Part B of Medicare, helps pay for the cost of physician and other health services provided to enrolled aged and disabled individuals and to enrolled individuals with end-stage renal disease. The program is jointly financed by enrollee premiums and general revenues.

In recent years, the cost of the program has increased rapidly, raising concerns about the impact of these increases on beneficiaries and the Federal budget. In 1988, the SMI premium will increase by 39 percent, from \$17.90 to \$24.80 per month, due in part to the increasing cost of the program.

This report presents information on three aspects of the SMI program. The first section provides a brief description of the program with particular emphasis on its financing. The second presents historical data on its costs. The third describes how the SMI beneficiary premium is determined, and discusses the estimation of the premium in recent years.

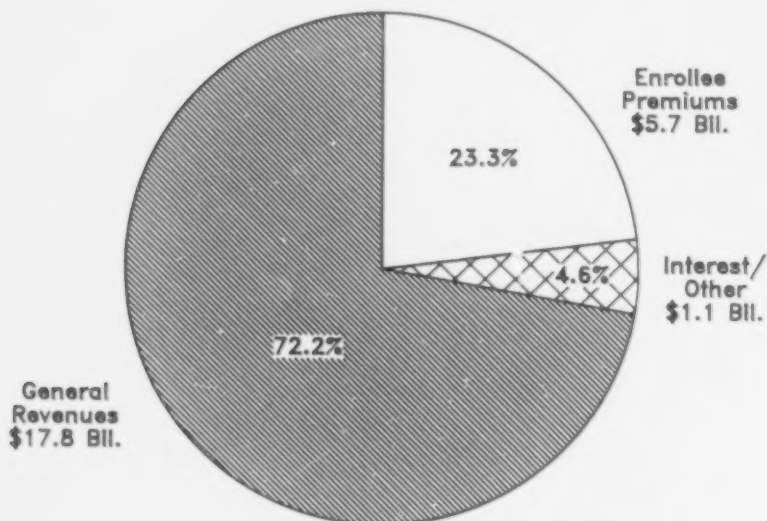
II. THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM

The Supplementary Medical Insurance (SMI) program, or Part B of Medicare, helps pay for the cost of physician, outpatient hospital, diagnostic laboratory and x-ray services, and certain other medical services provided to enrolled persons age 65 and over, disabled persons who have been receiving Social Security disability benefits for 24 months, and persons suffering from end-stage renal disease (ESRD). Enrollment in the SMI program is voluntary. However, the vast majority of persons entitled to benefits under the Hospital Insurance (HI) program, Part A of Medicare, elect to enroll in Part B. In 1983, over 95 percent of all aged Medicare beneficiaries were eligible for benefits under both parts A and B.

The SMI program's income and expenditures are accounted for through the Federal Supplementary Medical Insurance Trust Fund. As shown in figure 1, the Trust Fund has three sources of income: 1) enrollee premiums, 2) income contributed from general revenues in proportion to premium payments, and 3) interest earned from investment of the Trust Fund's assets. Outlays for the program have been growing rapidly. Between 1976 and 1986, total expenditures per calendar year on a cash basis increased at an annual rate of 17 percent, from \$5.6 to \$27.3 billion. As shown in Figure 2, reimbursement for physician services accounts for about 74 percent of program benefit payments.

The financing needs of the SMI program are established prospectively on an annual basis. Based on estimates prepared by the Office of the Actuaries in the Health Care Financing Administration (HCFA), premium and general revenue contributions are set such that the projected total income, including interest earned, maintains Trust Fund assets at a level sufficient to pay incurred benefits and administrative costs for a forthcoming year. Given that the Fund's income is determined prospectively, the premium is set such that assets are maintained at a level adequate to cover moderate projection errors as well as the value of incurred but unpaid expenses.

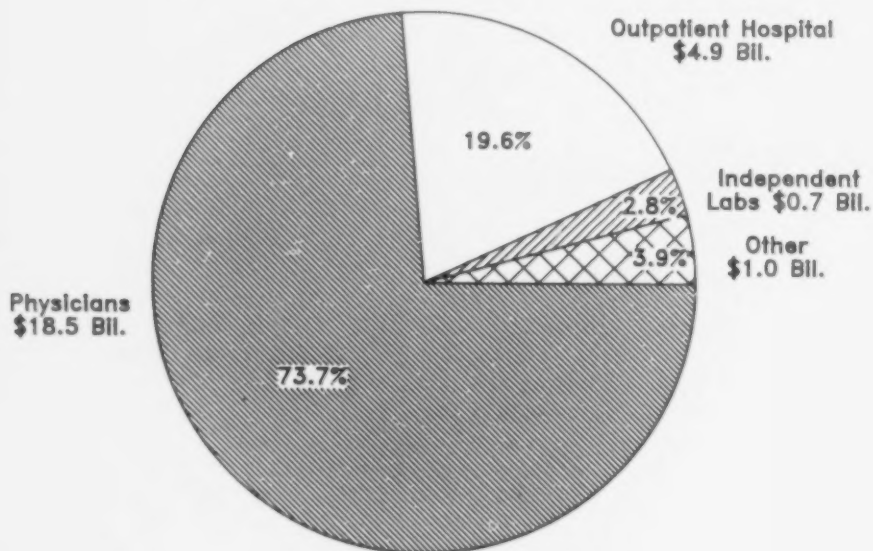
FIGURE 1
SMI Trust Fund Revenues in CY 1986



Total - \$24.7 Billion

Source: 1987 SMI Trustees' Report

FIGURE 2
SMI Benefit Payments in FY 1986



Total - \$25.2 Billion

Source: HCFA (may be subject to change)
Excludes administrative costs of \$1.0 Billion

In general, the SMI Trust Fund does not accumulate assets to pay for future benefits; its income needs are determined primarily by estimating the liabilities it will incur during a single 12-month financing period. In this regard, the SMI program is similar to experience rated-health insurance policies in the private sector. In this type of plan, current premiums are used to pay for current benefits with the insurer holding an appropriate level of reserves to cover unanticipated events. Premiums are adjusted annually to reflect changing benefit costs and to make appropriate adjustments in the level of reserves, but assets are not accumulated.

While the concept of enrollee premiums has always been a part of the design of the SMI program, the portion of the program financed by beneficiary premiums has changed over time. The original Medicare legislation required the Secretary to set the monthly premium to permit aggregate premium revenues to equal one-half of the program's expenses for the elderly, adjusted for interest income and a contingency reserve to cover projection errors and unanticipated events. The monthly premium was \$3.00 per enrollee in 1966, increasing to \$5.80 in 1973.

The Social Security Amendments of 1972 (P.L. 96-603) limited the annual increase in the SMI premium to the annual percentage increase in Social Security cash benefits. If this limit restricted aggregate premium revenues to less than half of the program's costs for the elderly, the necessary revenues were to be made up through proportionally greater financing with general revenues. This legislation was motivated, in part, by the concern that due to growth in the SMI program, the premium was accounting for an increasing proportion of individuals' social security benefit checks. Between 1973 and 1983, the SMI premium increased from \$5.80 to \$12.20 per month. Over this period of health care inflation in excess of inflation in the overall economy, the premium increased at a rate of 7.7 percent per year while aggregate SMI expenditures increased at a rate of 20.9 percent. As a result, the proportion of expenditures financed through premium revenues declined from 54.5 percent in 1973 to 22.3 percent in 1983.

Beginning in calendar year 1984, the Tax Equity and Fiscal Responsibility Act of 1982 (P.L. 97-248) temporarily re-established the SMI premium as a fixed percentage (25 percent) of program expenditures for the elderly, adjusted for interest income and to provide for a contingency margin. Subsequent legislation extended this provision through 1988. It should be noted that while the premium is often described as equal to 25 percent of program costs for the elderly, premiums will generally account for somewhat less than 25 percent of program costs. This is due, in part, to the fact that while disabled and ESRD beneficiaries pay the same

premium as the elderly, the per enrollee expenditures for these persons are higher than for the elderly. Thus, there is a proportionally higher general revenue contribution per disabled and ESRD enrollee than per aged enrollee. In addition, the premium is determined to account for 25 percent of expenditures for the elderly adjusted for interest income and for adjustments, if any, to the contingency reserve. The interest and contingency reserve adjustments will also affect the proportion of costs accounted for by premiums. The SMI premium was \$14.60 in 1984, \$15.50 in 1985 and 1986, and \$17.90 in 1987. After TEFRA's premium provisions became effective, premium revenues were 23.5 percent of expenditures in 1985, 21.0 percent in 1986, and were originally projected by the actuaries to be 21.0 percent of expenditures in 1987. In 1988, the premium will increase by 39 percent, to \$24.80.

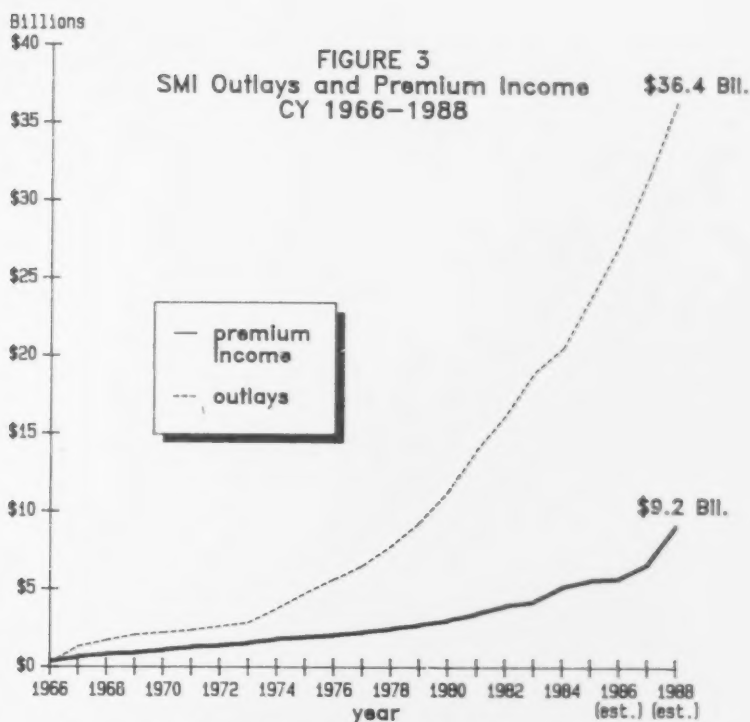
III. HISTORICAL TRENDS IN SMI OUTLAYS

Increasing program expenditures affect both the level of the SMI premium and the amount of general revenues required to finance the program. Increasing expenditures are due to many factors including inflation, growth in the number of enrollees, and changes in the mix of services provided. This section presents historical information on SMI expenditures.

A. SMI Outlays

Figure 3 shows SMI outlays for calendar years 1966 to 1988. ^{1/} Since 1966, the program's first full year of operation, annual outlays have increased from \$1.3 billion to an estimated \$36.4 billion in 1988. The chart also shows the relative contribution of enrollee premiums in financing the program. Prior to the Social Security Amendments of 1972, the premium accounted for approximately half of the program's outlays. Between 1972 and 1984, a period of high inflation in medical care costs when increases in the SMI premium were limited to increases in Social Security benefits, the proportion of the program financed by premiums steadily declined to about 22 percent while the proportion financed by general revenues increased.

^{1/} The 1987 SMI Trustees' Report. See table A1 in the appendix for the data used to construct figure 3.



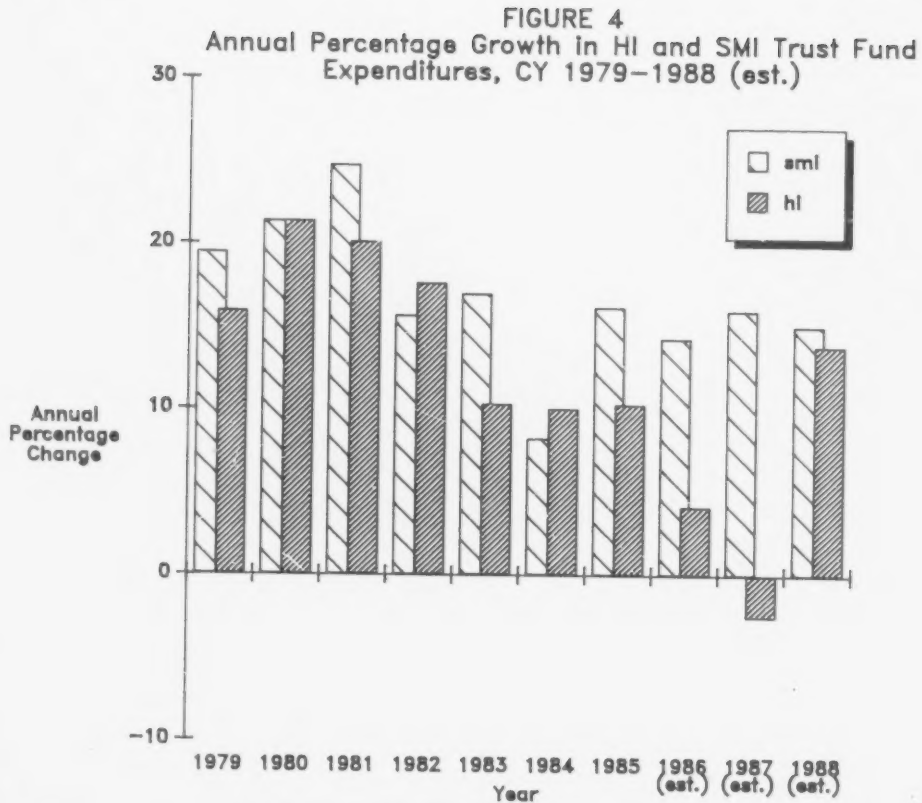
B. Annual Growth in SMI and HI Programs

Medicare is composed of two programs--the Hospital Insurance (HI) program that primarily provides benefits for inpatient hospital services, and the SMI program that pays for physician and other services.

Figure 4 shows the annual percentage growth in the SMI and HI programs for the 10 year-period 1979 through 1988.^{2/} Over this period, the annual growth in SMI expenditures exceeded the growth in HI expenditures in 7 out of 10 years. Average annual growth in SMI and HI expenditures were 16.7 and 11.9 percent respectively.

Between 1978 and 1984, changes in the growth rates of both SMI and HI outlays generally followed changes in the overall inflation rate during this period--peaking in 1981 and then declining through 1984. Since 1984, the growth rates of the two programs have diverged. Annual increases in SMI expenditures have remained above 10 percent. Growth in HI expenditures declined in 1986 and 1987 due in part to implementation of Medicare's prospective payment system for hospitals.

^{2/} The 1987 SMI and HI Trustees' Reports. See table A2 in appendix for the data used to construct figure 4.



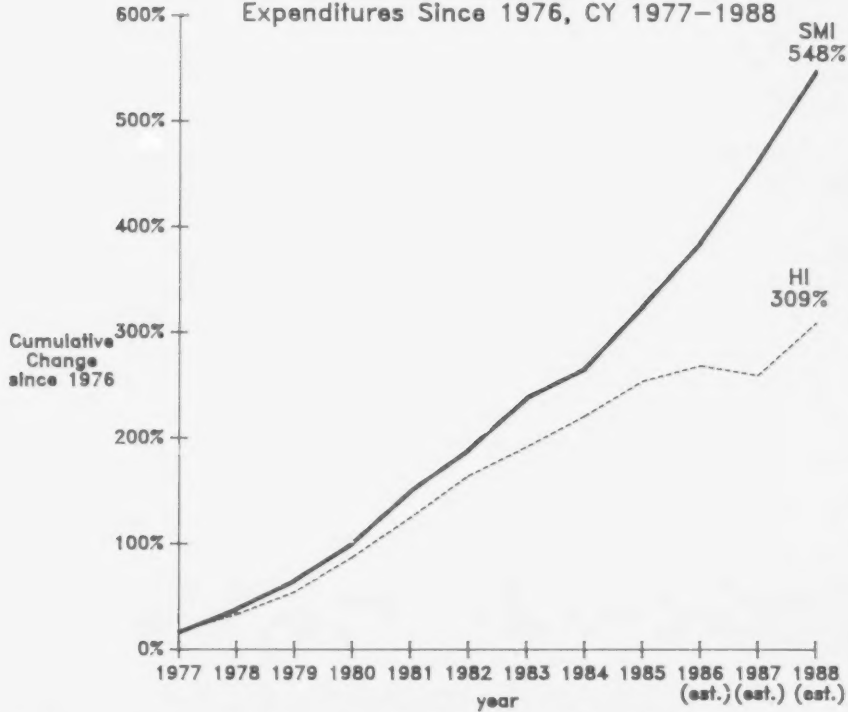
Source: 1987 SMI and HI Trustees' Report

C. Cumulative Growth in SMI and HI Programs

Figure 5 shows the cumulative percentage growth in the SMI and HI programs since 1976. ^{3/} Between 1976 and 1988 (estimated), SMI outlays have increased over five-fold while HI outlays have tripled. This figure also reflects the divergence of the SMI and HI growth rates since 1984. That is, prior to 1984 both SMI and HI programs were growing rapidly but at similar rates. Since 1984, growth in HI outlays has slowed while SMI outlays have continued to grow rapidly.

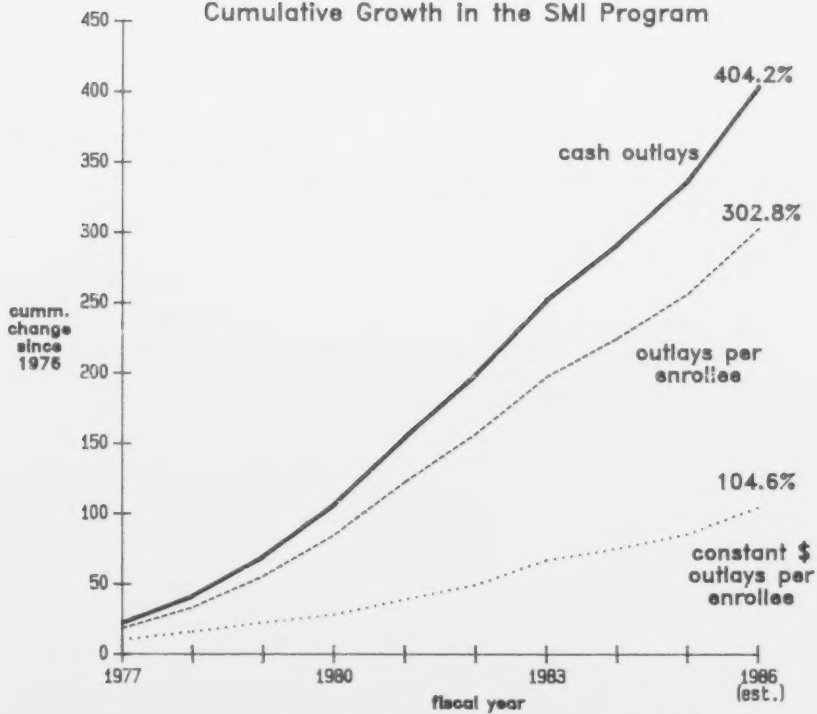
^{3/} The 1987 SMI and HI Trustees' Reports. See table A3 in appendix for the data used to construct figure 5.

FIGURE 5
Growth in HI and SMI Trust Fund
Expenditures Since 1976, CY 1977-1988



Source: 1987 SMI and HI Trustees' Report

FIGURE 6
Cumulative Growth In the SMI Program



Source: 1987 SMI Trustees' Report

D. Cumulative Growth in SMI Outlays, Adjusted for Number of Enrollees and Inflation

Growth in SMI outlays is the result of many factors including growth in the number of enrollees and inflation. Figure 6 shows the cumulative percentage growth since 1976 in 1) SMI outlays, 2) SMI outlays per enrollee, and 3) SMI outlays per enrollee in constant dollars. 4/ The figure suggests that approximately 25 percent of the growth in outlays since 1976 is due to an increasing population of enrollees. This figure also shows that when adjusted for changes in the Consumer Price Index (CPI), outlays per enrollee have nearly doubled in constant dollars. This doubling suggests that program outlays are increasing not only due to inflation and growth in number of enrollees, but also due to increasing prices and intensity of services (e.g., services per enrollee, the effects of technology, and changes in mix of services provided).

SMI payments for physician services have also been growing rapidly, increasing by 345 percent over the 10 year-period, 1975-1985. Although the number of practicing physicians has been increasing, their level of income from the SMI program has also been increasing. Adjusted for inflation (CPI), SMI payments for physician services per practicing non-Federal physician increased by 46 percent over this 10 year-period. This represents an average annual increase of 3.9 percent per physician in real terms over this period. During the last half of this period, 1980 to 1985, SMI payments for physician services per physician increased by an average of 4.4 percent per year in constant dollars.

4/ See tables A4 and A5 in appendix for the data used to construct figure 6.

E. Cumulative Growth in SMI Benefits per Aged Enrollee

While SMI outlays have been growing rapidly, the cost each of the different types of benefits provided under the program have not grown at the same rate. Table 1 shows the estimated cumulative growth in reasonable costs and charges between 1984 and 1988 per elderly enrollee by type of service. Overall, the per enrollee reasonable costs and charges increased 67 percent over this 4-year period. Physician services, which account for 74 percent of SMI outlays, grew at the slowest rate. They increased a total of 55.4 percent. However, because physician services represent such a large proportion of total benefit payments, they accounted for 65.1 percent of the total increase in per enrollee reasonable costs and charges over this period.

TABLE 1. Estimated Cumulative Growth in SMI Reasonable Costs and Charges per Elderly Enrollee By Type of Service, 1984-1988

Type of Service	Cumulative Growth 1984-1988 (in percent)	Average Annual Growth (in percent)	Relative Contribution (in percent)
Physician Services	55.4	11.7	65.1
Outpatient Hospital	60.1	12.5	23.8
Other	146.8	25.3	11.1
Total	67.1	13.7	100.0

Source: calculated from data provided in 1986 and 1987 SMI Trustees' Reports and from data used in determining the 1988 SMI premium.

IV. HISTORICAL TRENDS IN SMI ENROLLEE SPENDING FOR HEALTH CARE

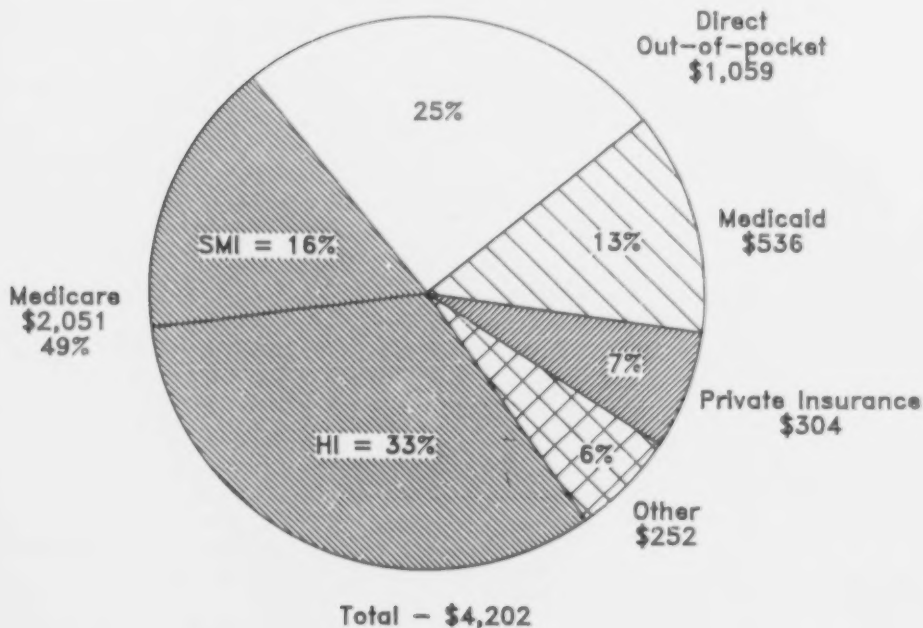
Increases in SMI expenditures and SMI premium directly affect enrollees who generally pay their premiums through deductions from their Social Security benefit checks. Increasing expenditures also affect enrollees by increasing their out-of-pocket liability for SMI deductible and coinsurance amounts. This section presents historical information on the impact of increasing SMI expenditures on enrollees.

A. Health Care Spending for the Aged

Medicare is one of several sources of financing for the health care costs of the elderly. Figure 7 shows the sources of payment in 1984 for health care for persons age 65 and over.^{5/} The data in this figure do not reflect any additional amounts that may have been paid by the elderly for health insurance premiums.

Medicare accounts for slightly less than half of the \$4,202 in health spending per elderly person per year. The SMI program (32 percent of total Medicare expenditures in 1984) accounted for about 16 percent of this amount. Medicaid accounted for 13 percent, primarily for long-term nursing home services. Direct out-of-pocket payments, not including amounts paid for health insurance premiums, was the second largest source of payments, accounting for a quarter of the total.

FIGURE 7
Per Capita Health Care Spending for Persons
Age 65 and Over
by Source of Payment, 1984



Source: Health Care Financing Review, Fall 1984

^{5/} Waldo, D. R. and H. Lazenby. Demographic Characteristics and Health Care Use and Expenditures by the Aged in the United States: 1977-1984. Health Care Financing Review, v. 6, no. 1, fall 1984. p. 10,11.

B. Enrollee Cost-sharing for SMI Covered Services

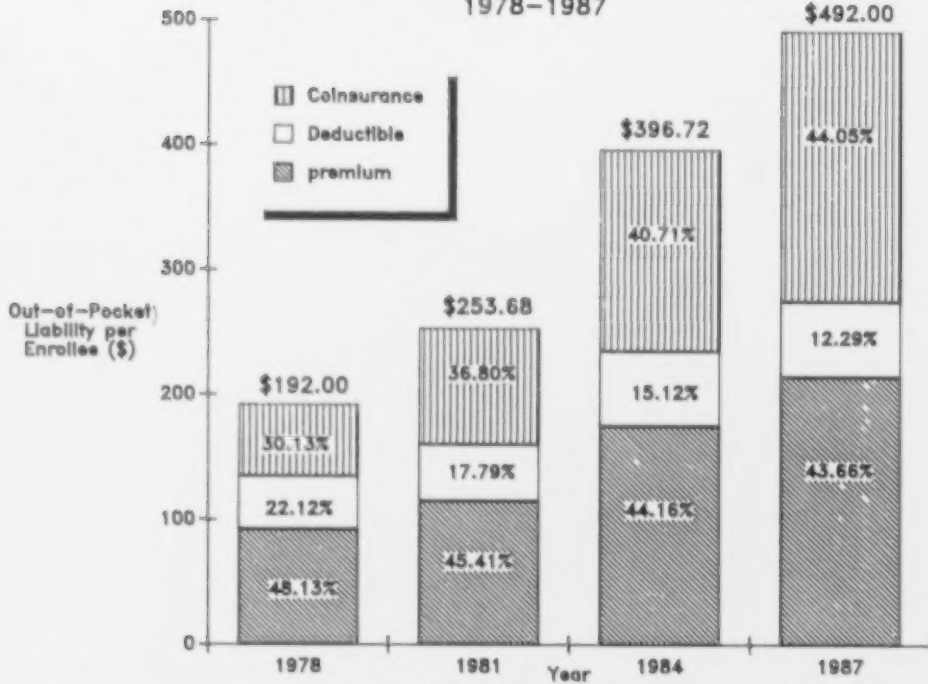
Increases in SMI expenditures affect not only the SMI premium but also enrollees' cost-sharing liability. Figure 8 shows the estimated annual liability per aged enrollee for SMI premium, deductible and coinsurance amounts from 1978 through 1987. ^{6/} The data in this figure do not reflect certain additional liabilities, such as billed charges in excess of the reasonable charges recognized under Medicare on unassigned claims.

Aged enrollees' liability for Medicare cost-sharing amounts increased from \$192 in 1978 to an estimated \$492 in 1987, an 11 percent annual rate of increase over this period. Total Medicare cost-sharing liability per enrollee increased somewhat faster than the SMI premium. The proportion of total cost-sharing accounted for by the premium declined from 48 percent in 1978 to 44 percent in 1987. The component of enrollee liability that increased the fastest was for SMI coinsurance amounts, generally 20 percent of reasonable charges. The annual liability for coinsurance amounts per aged enrollee increased at an annual rate of 15.8 percent, from \$58 in 1978 to \$217 in 1987.

Enrollee liability for the SMI premium and cost-sharing has increased faster than Social Security benefit payments. As a result, enrollee premium and cost-sharing amounts are representing an increasing proportion of Social Security cash benefits. In 1981, a worker with an average work history who retired in 1980 and who used an average amount of SMI benefits would have faced an SMI premium and cost-sharing liability of 4.1 percent of his Social Security cash benefit. In 1987, this same person would have faced an average coinsurance of 6.0 percent of his cash benefit.

^{6/} See table A6 in appendix for the data used to construct figure 8.

FIGURE 8
Estimated Average Annual Out-of-Pocket Liability
per Aged Enrollees for SMI Covered Services
1978-1987



Source: Estimated from data in SMI Trustees' Reports, various years

C. Growth in SMI Premium Compared to Increases in the CPI and Social Security COLA

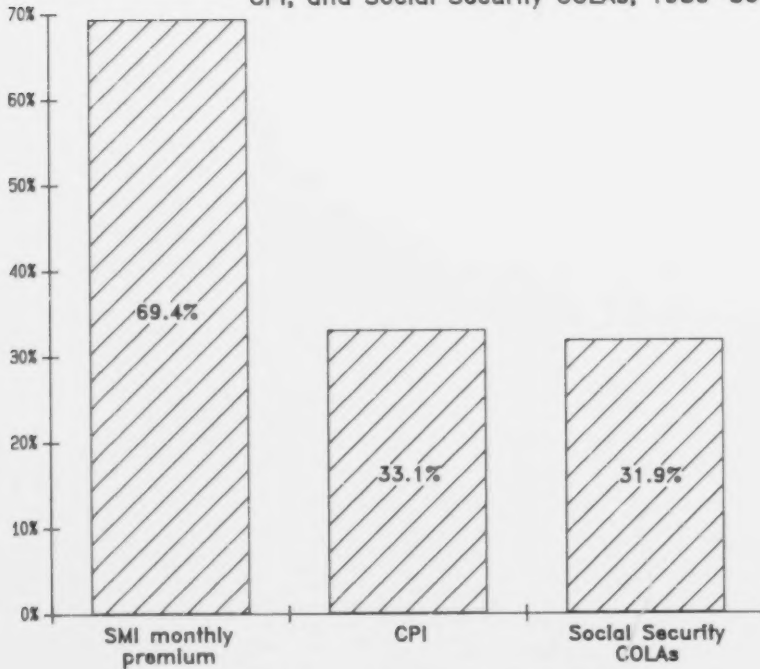
Figure 9 compares the overall growth in the SMI premium, the CPI, and Social Security cost-of-living adjustments (COLA) between 1980 and 1986. 7/ Over this interval, the SMI premium has grown nearly twice as fast as both prices in the overall economy and Social Security benefit payments.

Figure 10 compares annual increases in the SMI premium to the Social Security COLA between 1980 and 1988 (estimated). 8/ This figure shows that the premium has generally increased faster than the COLA in this decade.

7/ See table A7 in appendix for the data used to construct figure 9.

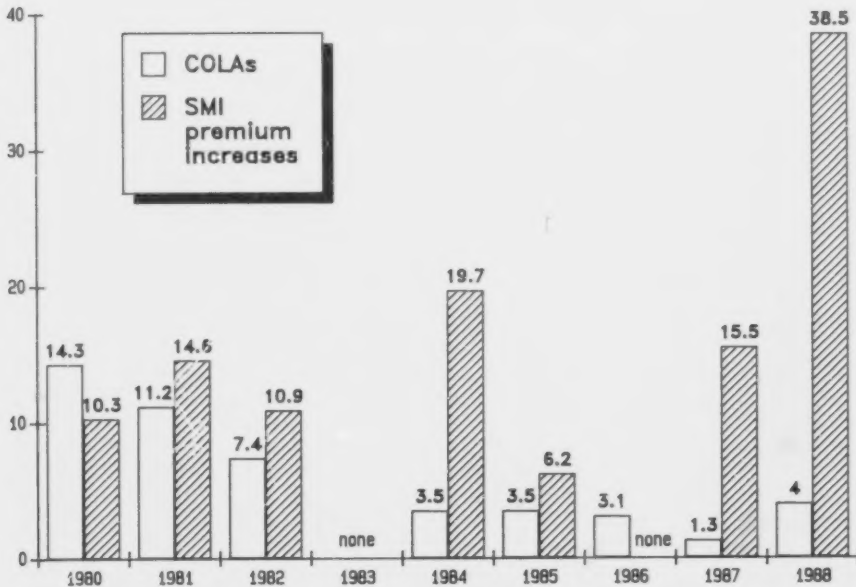
8/ See table A9 in appendix for the data used to construct figure 10.

FIGURE 9
Cumulative Increases in SMI Premiums,
CPI, and Social Security COLAs, 1980-86



Source: See Table 7 in appendix

FIGURE 10
Comparison of SMI Premium Increases
to Social Security COLAs, 1980-88



Source: SSA & HCFA

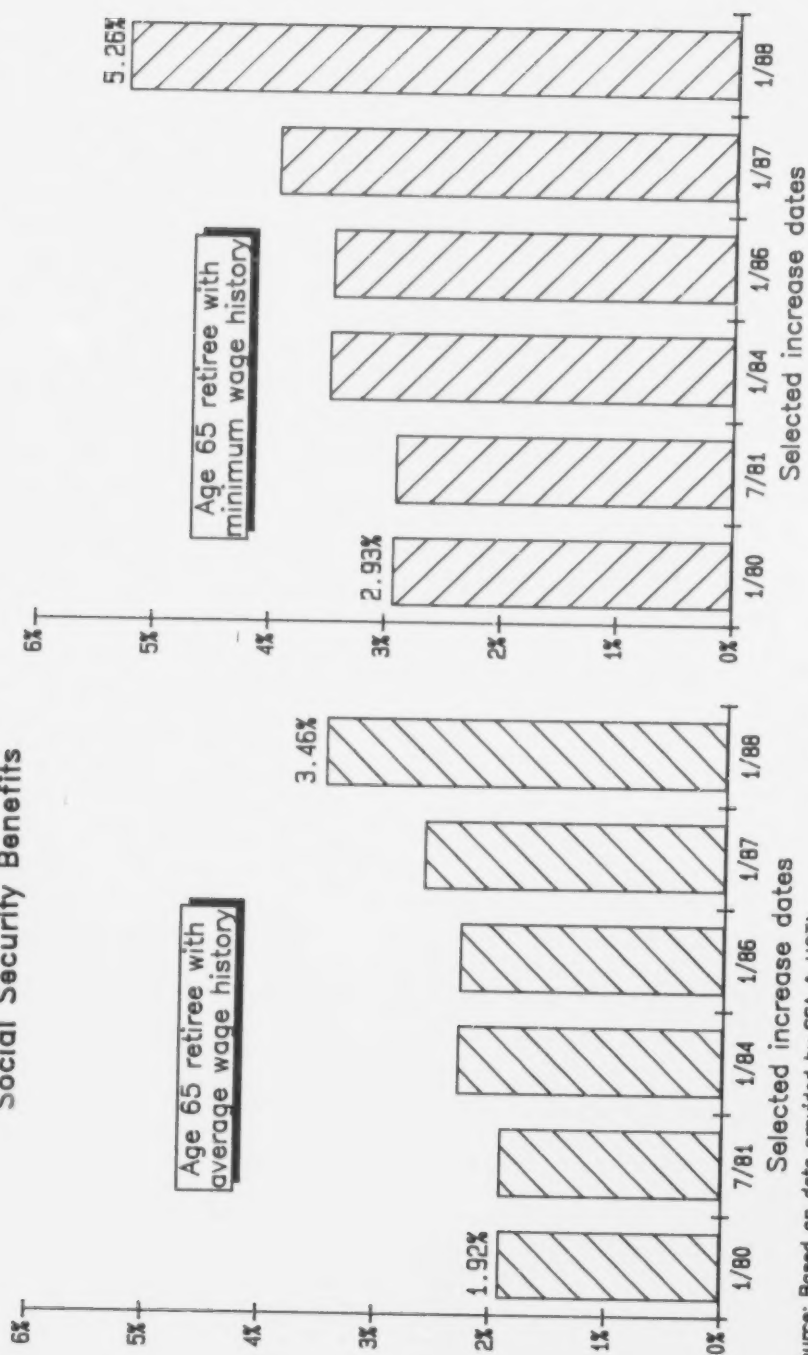
D. SMI Premium as a Proportion of Social Security Cash Benefits

As a result of the faster increase in the SMI premium compared to the Social Security COLA, the premium deduction from benefit checks has represented an increasing percentage of the total. Figure 11 shows the SMI premium as a percentage of the cash benefits paid to two hypothetical social security beneficiaries. ^{9/} The first example is a worker who retired at age 65 in January 1980 with an earnings history of average wages. For this retiree, the SMI premium was 1.9 percent of the Social Security benefit in 1980, increasing to 2.6 percent in January of 1987. When the SMI premium becomes \$24.80 per month in January 1988, it will represent an estimated 3.5 percent of this worker's benefits. The second example is a worker who retired at age 65 in January 1980 with an earnings history of minimum wages. For this retiree, the SMI premium was nearly 3.0 percent of social security benefits in 1980, increasing to 5.3 percent in January 1988.

It should be noted that current law provides for some limited protection against large SMI premium increases for individuals receiving low Social Security cash benefits. For persons who actually received Social Security benefits the month preceeding an SMI premium increase, the dollar amount of the deduction for the premium increase can not exceed the dollar amount of an increase in the cash benefit. Thus, the absolute dollar level of Social Security benefit checks can not be reduced by a premium increase.

^{9/} See table A8 in appendix for the data used to construct figure 11.

FIGURE 11
Growth of SMI Premium in
Relation to 1980 Retirees'
Social Security Benefits



Source: Based on data provided by SSA & HCFA

IV. ESTIMATION OF THE SMI PREMIUM

The SMI premium is determined annually by the Office of the Actuary in the Health Care Financing Administration. Under current law, the premium is determined such that the assets in the SMI Trust Fund will be adequate to meet the incurred liabilities of the Fund for benefit payments and administrative expenses, adjusted for interest income earned on the balance held in the Fund and adjusted to provide for a contingency margin to cover unanticipated events and projection errors. The basis for determining the monthly premium is the "monthly actuarial rate for enrollees age 65 and over," defined in law as one-half the expected costs per aged enrollee per month, adjusted for interest and a contingency margin. Under current law, the monthly premium equals half the monthly actuarial rate, or approximately 25 percent of program costs. The estimation of the monthly actuarial rate is projected based on estimated future incurred expenditures, interest adjustments, and adjustments for the contingency margin.

A. Projected Expenses per Elderly Enrollee

The projection of the monthly actuarial rate (half of the expected expenses incurred per elderly enrollee per month) is based on the projection of three factors: reasonable charges and costs incurred, ^{10/} beneficiary cost-sharing (deductible and coinsurance payments), and administrative expenses. The projection of reasonable

^{10/} SMI reimbursement amounts are based on the determination of the "reasonable charge" or "reasonable cost" for the service minus applicable cost-sharing amounts, and may differ from the amount actually billed for the service. Whether the reimbursement amount is based on charges or costs varies by type of services. For an explanation of how these amounts are determined, see CRS Report no. 86-153 EPW "Medicare Part B: The Supplementary Medical Insurance Program."

charges and costs is based on projected rates of increase by type of service using the most current data available. These amounts are reduced for enrollee cost-sharing (\$75 annual deductible, and a coinsurance generally equal to 20 percent of reasonable charges or costs). This result is then increased by projected administrative expenses per enrollee. 11/

The increase in reasonable charges for physician services per aged enrollee, which account for about 74 percent of all SMI expenditures, is projected as the product of increases in recognized prices for services and a so-called "net residual" factor. The "price" component is based on annual changes in the physician fee component of the CPI adjusted to reflect any limitations on price increases under the Medicare program. Medicare's limitations on price increases include the effect of the Medicare Economic Index limitation on increases in prevailing charges and the fee-freeze that was in effect from July 1, 1984 through April 30, 1986 for participating physicians and through December 31, 1986 for non-participating physicians. The effect of the fee-freeze on recognized reasonable charges can be seen in table 2; the projected increase in recognized prices for years ending June 30th in 1985 and 1986 were 0.8 percent and 0.4 respectively.

The "net residual" factor is an estimate of the net effect of a variety of potential factors on total recognized charges for physician services per aged beneficiary, such as changes in utilization per enrollee, increases in the average age of Medicare enrollees, greater use of medical specialists and more expensive technologies, and certain administrative actions, such as the observed increase over time in the proportion of charges that have been denied as non-covered services.

11/ The 1987 SMI Trustee's Report contains two sets of projection factors for the increases in incurred reasonable charges and costs for the twelve month periods ending June 30th 1984-1988. One set, appendix B, table 2, page 61, reflects the projection factors used to determine the 1987 premium, as published in the Federal Register of Oct. 2, 1986. The second set, developed after the first, are published in appendix A, tables A.3, A.4 and A.5. This second set of estimates differs from the first due, in part, to changes in assumptions, legislative changes enacted after the premium was promulgated (specifically, the Omnibus Budget Reconciliation Act of 1986, P.L. 99-506), and may reflect more recent data. Unless otherwise specified, this report uses the more recent set of estimates.

TABLE 2. Percentage Change in Per Aged Enrollee Incurred Reasonable Charges or Costs

Year ending June 30th	Physician services			Institutional and other services			
	Reasonable charges (Price) (percent)	Net residual factors (Volume) (percent)	Total (percent)	Outpatient hospital (percent)	Home health agency (percent)	Prepayment plans (percent)	Independent laboratory (percent)
1980	8.6	7.6	16.8	14.3	8.8	45.1	20.7
1981	7.7	8.3	16.6	18.7	4.3	27.1	30.8
1982	10.8	5.7	17.1	14.2	-94.3	20.4	20.2
1983	8.9	9.7	19.5	19.0	54.0	21.8	12.3
1984	7.2	4.4	11.9	22.6	28.6	21.6	23.2
1985	0.8	4.6	5.4	27.8	6.1	12.9	23.3
1986*	0.4	8.9	9.3	4.2	5.4	57.7	42.5
1987*	6.8	9.5	17.0	21.7	10.8	38.0	13.1
1988*	4.6	7.6	12.6	18.1	12.4	22.3	18.0
1989*	3.4	5.8	9.4	18.3	10.7	19.0	17.6

* projected

Sources: For years ending in 1980-1985: 1987 SMI Trustee's Report,
Appendix A. For years ending in 1986-1989: HCFA.

Table 3 shows the cumulative effect of the price and net residual factors on recognized charges per aged enrollee for physician services for years ending June 30th over the five year period 1983 to 1988. Over this period total charges per enrollee increased by 70 percent. The net residual factor accounts for 57 percent of the cumulative increase, while increases in recognized prices account for 43 percent of the total.

TABLE 3. Cumulative Percentage Increase in Recognized Physician Charges per Aged Enrollee, 1983-1988

	Price (percent)	Net Residual (percent)	Total (percent)
Cumulative Increase	21.2	40.1	70.0
Percent of Total	34.6	65.4	100.0

Source: calculated from Table 2.

The actuaries also project changes in reasonable charges and costs per aged enrollee for outpatient hospital, home health, group practice prepayment plans (i.e., health maintenance organizations) and independent laboratories. As noted by the actuaries, the annual increases for institutional and other SMI services historically have been erratic, and thus the historical trends provide only a rough indication of future costs. Historical increases in these reasonable charges and costs also are shown in table 1. On an annual basis, the recognized charges and costs for these services have been increasing at a somewhat faster rate than the total increase in recognized charges for physician services. As a result, these services have accounted for an increasing proportion of total SMI benefits. However, as these services account for only 26 percent of total benefits, increases in total benefits are largely determined by increases in payments for physician services.

B. Interest Earned

The projected SMI program expenses per aged enrollee are reduced to reflect the interest earned from the investment of

assets held in the SMI Trust Fund. The amount of interest earned is a function of both the level of assets available for investment and the prevailing interest rates. The interest income to the Fund increased each year between 1981 and 1986 in both absolute amounts (from \$372 million in FY 1984 to \$1.22 billion in FY 1986) and relative to annual outlays (2.8 percent of outlays in FY 1984 to 4.7 percent in FY 1986). The interest earned in FY 1987 and FY 1988 is expected to decline.

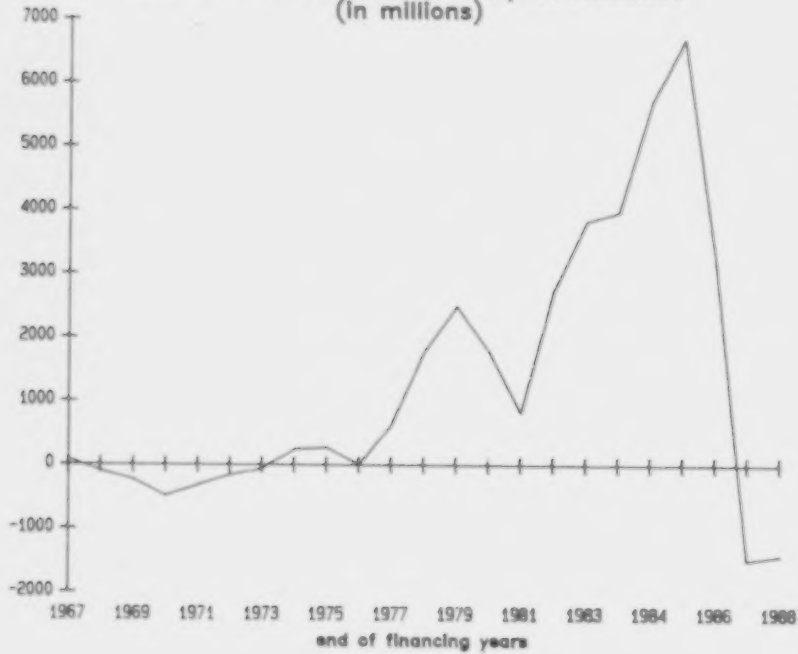
C. Adjustments For the Contingency Margin

As the income to the SMI Trust Fund is determined prospectively, the premium level is set such that the Fund will have sufficient assets to cover expenses in case of moderate projection errors and unanticipated events. This margin is the excess of assets over liabilities at the end of a financing period. The level of the margin changes according to the accuracy of the projections of the income required in each financing period and according to adjustments in the monthly actuarial rate that are deemed necessary to maintain an adequate margin. It should be noted that Fund may be solvent even though the margin is negative. That is, the incurred but unpaid liabilities of the Fund may exceed the assets of the Fund, even though the balance in the Fund remains positive. The historical and projected margins in the SMI Trust Fund are shown in figure 12. ^{12/}

The actuarial status of the Trust Fund is measured by the ratio of these excess assets to projected liabilities during the following 12 month financing period. According to the Office of the Actuary, the actuarial status of the SMI Trust Fund improved between 1980 and 1985. As shown in figure 13, the actuarial status, measured in months of expenditures covered by the margin, was expected to be nearly 3 months at the end of 1985. According to the 1986 and 1987 SMI Trustees' Reports, this level of assets was deemed to be in excess of the amount necessary to provide for an adequate contingency margin. As a result, the Trustees decided to reduce the assets in the Fund in 1986 and 1987. This was done by reducing the income to the Fund, both from enrollee premiums and proportional general revenue contributions, such that outlays exceeded income. As a result, the 1986 and 1987 enrollee premiums were set at artificially low levels. The 1986 premium was \$0.80 below what the projected premium would have been without any adjustment to the contingency margin, remaining at the same as the 1985 premium (\$15.50 per month). The 1987 premium was set at \$1.40 below what it otherwise

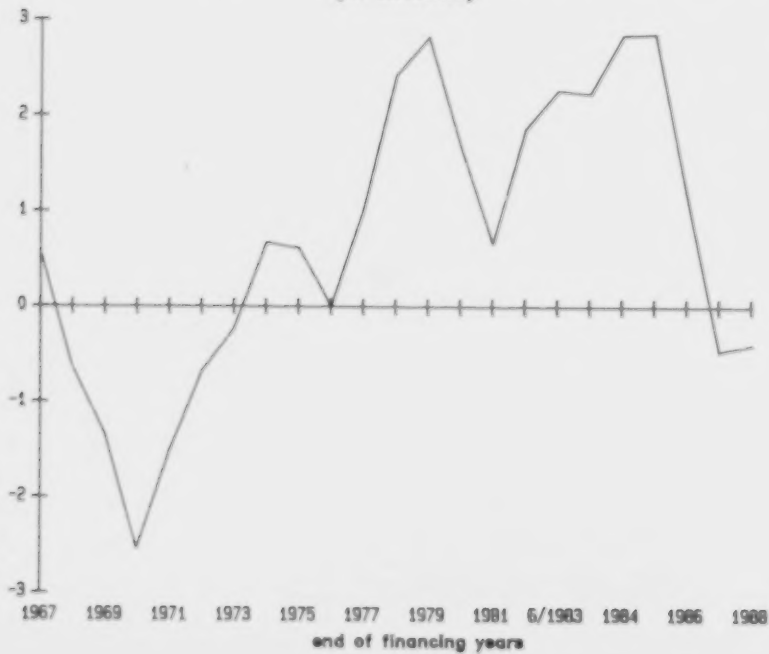
^{12/} See table A10 in appendix for data used to construct figures 12 and 13.

FIGURE 12
Status of the SMI Fund
End-of-Year Assets Minus Unpaid Liabilities
(In millions)



Source: HCFA

FIGURE 13
Actuarial Status of the SMI Trust Fund*
(in months)



Source: HCFA

*Actuarial status measured as the number of months of next year's incurred expenditures accounted for by end-of-year assets minus unpaid liabilities.

would have been. Given these adjustments, it was expected that the assets in the Fund would be reduced to a more appropriate level.

One effect of contingency margin adjustments is that it distorts year-to-year comparisons of the premium. That is, if the premium is set low in one year to reduce the margin, the premium the following year may increase faster than program costs. For example, if projected 1988 costs were equal to the projected 1987 costs, the 1988 premium would increase by about 8 percent if there was no further adjustment to the contingency margin. If costs were projected to increase in 1988, or if the projected 1987 costs were too low, the premium would have to increase by an even greater percentage for the program to remain on an actuarially sound financial basis.

D. Estimating the 1988 SMI Premium

The SMI monthly premium for 1988 is \$24.80. This represents a 38.5 percent increase over the 1987 premium of \$17.90.

This increase is due to several factors. First, some portion of the premium increase is due to the adjustments made to the contingency margin in the 1987 premium described above. Second, the current margin is deemed to be too low--assets in the Trust Fund at the end of 1987 are less than the incurred but unpaid expenses. Therefore, the 1988 premium includes an adjustment deemed necessary to increase the margin that will exist at the end of 1987. Third, the projections of expenditures made in setting the 1987 premium were too low. The current estimates of 1987 expenditures per aged enrollee are percent higher than were projected in 1986 when the 1987 premium was set. At this time, it is not known why the current estimates for 1987 are higher than were originally estimated. Fourth, this higher estimate for 1987 also provides a higher base for estimating the 1988 expenditures. The relative contributions of these factors to the increase in the premium are shown in table 4.

Table 5 shows for calendar years 1984-1987 the estimated reasonable charges and costs, cost-sharing amounts, and administrative expenses used to develop the monthly actuarial rate per aged enrollee. These figures were estimated by the Office of the Actuary from program data and data from external sources, and are projected forward using the projection factors described above. ^{13/}

^{13/} The projection factors used in estimating these figures are described in Table 1.

TABLE 4. Contributions to the Increase of the SMI Premium Between 1987 and 1988

Source	Increase in Premium (percent)	Relative Contribution (percent)
Contingency Margin Adjustments		
Depletion of margin in 1987	8.0	20.8
Replacement of margin in 1988	0.4	0.9
Total for Margin Adjustments	8.4	21.7
Increases in Expenditures, 1987-1988		
Physician services	10.6	27.5
All other expenditures	6.1	15.8
Total for Expenditures	16.7	43.4
Underestimation of Costs in 1987		
Physicians	12.1	31.4
All other expenditures	1.3	3.4
Total for Underestimation	13.4	34.8
Total	38.5	100.0

Source: HCFA--draft premium notice "Monthly Actuarial Rates and Part B Premium Rates beginning January 1, 1988." To be published in the Federal Register September 30, 1987.

TABLE 5. Estimation of One-half of SMI Incurred Expenditures Per Aged Enrollee Per Month for 1988

Financing Periods:				
	CY 1985	CY 1986	CY 1987	CY 1988
Covered Services				
Physicians	\$31.28	\$35.45	\$40.63	\$45.06
Outpatient Hosp.	7.34	8.30	9.94	11.75
Home Health	0.05	0.05	0.05	0.06
Prepayment Plans	1.43	2.08	2.67	3.22
Independent Lab	0.77	0.96	1.11	1.31
Total Services:	40.87	46.84	54.40	61.40
Cost-sharing				
Deductible	-2.63	-2.69	-2.69	-2.68
Coinsurance	-6.98	-7.98	-9.34	-10.61
Total Benefits	31.26	36.17	42.37	48.11
Administrative Expenses	1.34	1.37	1.39	1.42
Incurred Expenditures	32.60	37.54	43.76	49.53
Value of Interest Earned	-1.17	-0.92	-0.34	-0.06
Contingency Margin for Projection Errors and to Amortize Surplus or Deficit	0.43	5.62	-7.62	0.13
Monthly Actuarial Rate	\$31.00	\$31.00	\$35.80	\$49.60
Monthly Premium	\$15.50	\$15.50	\$17.90	\$24.80

APPENDIX -- Supplementary Tables

TABLE AL
SMI Expenditures and Premiums, 1967-1988 a/

Calendar years	SMI expenditures (in millions)	SMI premiums (in millions)
1967	\$ 1,307	\$ 640
1968	1,702	832
1969	2,061	914
1970	2,212	1,096
1971	2,377	1,302
1972	2,614	1,382
1973	2,844	1,550
1974	3,728	1,804
1975	4,735	1,918
1976	5,622	2,060
1977	6,505	2,247
1978	7,755	2,470
1979	9,265	2,719
1980	11,245	3,011
1981	14,028	3,458 <u>b/</u>
1982	16,227	3,961 <u>b/</u>
1983	18,984	4,236
1984	20,552	5,167
1985	23,880	5,613
1986	27,299	5,722
1987 (est.)	31,677	6,668
1988 (est.)	36,449	9,159

a/ The 1987 SMI Trustee's Report, p. 30.

b/ Section 708 of Title VII of the Social Security Act modified the provisions for the delivery of benefit checks when the regularly designated delivery day falls on a legal public holiday. Delivery of benefit checks normally due in Jan. 1982 occurred on Dec. 31, 1981. Consequently, the SMI premiums withheld from these checks (\$264 million) were added to the Trust Fund on Dec. 31, 1982. The Trustees' Report includes these amounts in calendar year 1981. This table adjusts the data to include these amounts in the premium income for 1982.

TABLE A2.
Medicare Expenditures, 1967-1988

Calendar years	Hospital insurance <u>a/</u>		Supplementary medical insurance <u>b/</u>	
	Expenditures (in millions)	Annual growth (percent)	Expenditures (in millions)	Annual growth (percent)
1967	\$ 3,430		\$ 1,307	
1968	4,277	24.69	1,702	30.22
1969	4,857	13.56	2,061	21.09
1970	5,281	8.73	2,212	7.33
1971	5,900	11.72	2,377	7.46
1972	6,503	10.22	2,614	9.97
1973	7,289	12.09	2,844	8.80
1974	9,372	28.58	3,728	31.08
1975	11,581	23.57	4,735	27.01
1976	13,679	18.12	5,622	18.73
1977	16,019	17.11	6,505	15.71
1978	18,178	13.48	7,755	19.22
1979	21,073	15.93	9,265	19.47
1980	25,577	21.37	11,245	21.37
1981	30,726	20.13	14,028	24.75
1982	36,144	17.63	16,227	15.68
1983	39,877	10.33	18,984	16.99
1984	43,887	10.05	20,552	8.26
1985	48,414	10.32	23,880	16.19
1986	50,422	4.15	27,299	14.32
1987 (est.)	49,142	-2.54	31,672	16.02
1988 (est.)	55,978	13.91	36,449	15.08

a/ The 1987 HI Trustees' Report. p. 40

b/ The 1987 SMI Trustees' Report. p. 30.

TABLE A3
Cumulative Growth in HI and SMI
Trust Fund Expenditures, 1976-1988 (est.)

Calendar years	Hospital Insurance <u>a/</u>		Supplementary Medical Insurance <u>b/</u>	
	Expenditures (in millions)	Cumulative growth (percent)	Expenditures (in millions)	Cumulative growth (percent)
1976	\$ 13,679		\$ 5,622	
1977	16,019	17.11	6,505	15.71
1978	18,178	32.89	7,755	37.94
1979	21,073	54.05	9,265	64.80
1980	25,577	86.98	11,245	100.02
1981	30,726	124.62	14,028	149.52
1982	36,144	164.23	16,227	188.63
1983	39,877	191.52	18,984	237.67
1984	43,887	220.83	20,552	265.56
1985	48,414	253.93	23,880	324.76
1986 (est.)	50,422	268.61	27,299	385.57
1987 (est.)	49,142	259.25	31,672	463.36
1988 (est.)	55,964	309.12	36,449	548.33

a/ The 1987 HI Trustees' Report, p. 40.

b/ The 1987 SMI Trustees' Report, p. 30.

TABLE A4.
Total Disbursements and Average Enrollment
SMI Trust Funds (Cash Basis)

Fiscal Year	Total disbursements (million) <u>a/</u>	Average enrollment (million) <u>b/</u>	CPI-U <u>c/</u>
1977	6,342	24.865	178.7
1978	7,356	25.588	191.3
1979	8,814	26.294	211.0
1980	10,737	26.972	239.7
1981	13,228	27.562	266.2
1982	15,560	28.102	286.0
1983	18,311	28.560	296.0
1984	20,372	29.091	308.1
1985	22,730	29.576	319.4
1986	26,217	30.201	327.3

a/ The 1987 SMI Trustees' Report, p. 29.

b/ Average enrollment for years ending June 30th. Average enrollment is sum of aged, disabled, and ESRD average enrollments as cited in the 1987 SMI Trustees' Report. For aged and disabled average enrollment years 1977-85, see p. 45; for 1986, see p. 55 - alternative B. For disabled ESRD and ESRD only, see p. 57.

c/ Fiscal Year CPI-U derived by Gene Falk of CRS using data from the Bureau of Labor Statistics.

TABLE A5.
Cumulative Growth in SMI Outlays, SMI Outlays per Enrollee,
and SMI Outlays per Enrollee in Constant (1976) Dollars

Fiscal year	Cash outlays <u>a/</u>	Outlays per enrollee <u>b/</u>	Constant outlays per enrollee <u>c/</u>
1977	21.96%	18.36%	10.12%
1978	41.46%	33.41%	16.05%
1979	69.50%	55.56%	22.52%
1980	106.48%	84.73%	28.20%
1981	154.38%	122.72%	39.16%
1982	199.23%	156.95%	49.35%
1983	252.13%	197.53%	67.19%
1984	291.77%	224.97%	75.44%
1985	337.12%	256.64%	85.63%
1986	404.17%	302.84%	104.64%

a/ Outlays in each fiscal year divided by outlays in fiscal year 1976.

b/ Outlays per enrollee in each fiscal year divided by the outlays per enrollee in fiscal year 1976.

c/ Constant (1976) dollar outlays per enrollee in each fiscal year are estimated by dividing the outlays per enrollee in each fiscal year by the ratio of the CPI in that year over the CPI in fiscal 1976. The cumulative percentage growth since 1976 is then estimated by dividing the constant dollars outlays per enrollee by the outlays per enrollee in 1976.

TABLE A6.
Estimated Average Out-of-Pocket Expenses for
SMI Covered Services Per Aged Enrollee*

	1978	1981	1984	1987
Cost-sharing estimate used in computing the monthly actuarial rate <u>a/</u>				
Deductible	\$1.77 <u>b/</u>	\$1.88 <u>c/</u>	\$2.50 <u>d/</u>	\$2.52 <u>d/</u>
Coinsurance	2.41 <u>b/</u>	3.89 <u>c/</u>	6.73 <u>d/</u>	9.03 <u>d/</u>
Estimated annual cost-sharing per enrollee <u>e/</u>				
Deductible	42.48	45.12	60.00	60.48
Coinsurance	57.84	93.36	161.52	216.72
SMI premium - Annual <u>f/</u>	92.40	115.20	175.20	214.80
Total	\$192.72	\$253.68	\$396.72	\$492.00

* Financing periods ending June 30 in 1978 and 1981 and ending December 31 in 1984 and 1987.

a/ Cost-sharing estimates used in calculating the monthly actuarial rates for aged enrollees.

b/ The 1980 SMI Trustees' Report. p. 24.

c/ The 1983 SMI Trustees' Report. p. 54.

d/ The 1987 SMI Trustees' Report. p. 63.

e/ As the monthly actuarial rate is half of one month's expenditures, the annual deductible and co-insurance amounts are 24 times the values used to estimate the actuarial rate.

f/ The 1987 SMI Trustees' Report. p. 16. The values in this table are 12 times the monthly premium.

TABLE A7.
SMI Monthly Premium, CPI, and Social Security COLAs,
Selected Years and % Change

	1980	1986	% Change
SMI monthly premium <u>a/</u>	\$9.15	\$15.50	69.4
CPI <u>b/</u>	246.8	328.4	33.1
Social Security COLAs			31.9 <u>c/</u>

a/ The 1987 SMI Trustees' Report, p. 16. 1980 premium for period 7/1/79-6/30/80 (\$8.70).

b/ 1987 Economic Report of the President, p. 307.

c/ Social Security Statistical Supplement, 1986. Five COLAs became effective from July 1981 through Jan. 1986.

TABLE A8
SMI Premium Compared to Social Security
Retirement Benefits, 1980-88

Date	COLA	Social security monthly benefit	SMI premium	SMI premium as % of social security benefit
------	------	---------------------------------	-------------	---

Example 1. Assumes worker retired at age 65 in January 1980 with an earnings history of average wages:

January 1980	----	\$450.90	\$ 8.70	1.92%
July 1980	14.3%	515.40	9.60	1.86
July 1981	11.2	573.20	11.00	1.92
July 1982	7.4	615.20	12.20	1.98
January 1984	3.5	636.60	14.60	2.29
January 1985	3.5	658.50	15.50	2.35
January 1986	3.1	679.50	15.50	2.28
January 1987	1.3	687.90	17.90	2.60
January 1988 <u>a/</u>	4.0	715.80	24.80	3.46

Example 2. Assumes worker retired at age 65 in January 1980 with an earnings history of minimum wages:

January 1980	----	\$296.80	\$ 8.70	2.93%
July 1980	14.3%	339.30	9.60	2.83
July 1981	11.2	377.40	11.00	2.91
July 1982	7.4	405.20	12.20	3.01
January 1984	3.5	418.60	14.60	3.49
January 1985	3.5	433.50	15.50	3.58
January 1986	3.1	446.50	15.50	3.47
January 1987	1.3	452.90	17.90	3.95
January 1988 <u>a/</u>	4.0	470.80	24.80	5.26

a/ Figures for 1988 are preliminary estimates.

Source: Social Security Administration and Health Care Financing Administration. The 1988 COLA is a Congressional Research Service estimate based on CPI experience through Aug. 1987.

TABLE A9.
Comparison of SMI Premium Increases
to Social Security COLAS, 1980-88

Effective month	COLA	SMI premium increase
July 1980	14.3%	10.3%
July 1981	11.2	14.6
July 1982	7.4	10.9
January 1984	3.5	19.7
January 1985	3.5	6.2
January 1986	3.1	-0-
January 1987	1.3	15.5
January 1988 <u>a/</u>	4.0	38.5
Cumulative, 1980-88	60.0%	185.1%

a/ The 1988 COLA is a Congressional Research Service estimate based on CPI experience through Aug. 1987. The 1988 SMI premium increase is based on HCFA's latest estimate of a Jan. 1988 premium of \$24.80.

Source: Social Security Statistical Supplement, 1986 for increases through 1987.

TABLE A10
Actuarial Status of the SMI Trust Fund
1967 - 1988

As of June 30,	Standard monthly premium rate <u>a/</u>	Excess of assets over liabilities <u>b/</u> (in millions)	Monthly ratio <u>b/</u>
1967	\$ 3.00	77	0.576
1968	4.00	- 104	-0.636
1969	4.00	- 238	-1.332
1970	4.00	- 497	-2.544
1971	5.30	- 323	-1.524
1972	5.60	- 161	-0.684
1973	5.80	- 65	-0.228
1974	6.30	244	0.672
1975	6.70	271	0.612
1976	6.70	1	0.000
1977	7.20	633	1.020
1978	7.70	1,778	2.424
1979	8.20	2,493	2.820
1980	8.70	1,782	1.680
1981	9.60	816	0.660
1982	11.00	2,746	1.860
1983	12.20	3,831	2.268
July 1983 - Dec. 1983	12.20	3,890	2.232
As of December 31,			
1984	14.60	5,719	2.844
1985	15.50	6,695	2.856
1986	15.50	3,185	1.152
1987	17.90	-1,494	-0.468
1988	---	-1,417	-0.396

a/ The 1987 SMI Trustees' Report, p. 16.

b/ HCFA.